limitations as set forth in claims 8 and 9 as well as teaching with regard to the ratio of the thermoplastic and polyester, such that the claimed ratio limitations of claim 10 were considered by the Examiner to be inherently met. The Examiner recognized that Pike et al failed to teach the claimed polyester form from the reaction of the compound set forth in claims 1 - 7, but the Examiner considered Yamamoto to disclose the claimed polyester (abstract), and the Examiner asserted that the polyester composition exhibits good color tone and excellent forming properties. Therefore, it was asserted that it would have been obvious to one of ordinary skill in the art to substitute for the polyester component of Pike et al the polyester composition disclosed in Yamamoto.

Claims 12 - 14 were rejected under 35 U.S.C. § 103(a) based on Pike et al in view of Yamamoto, further in view of U.S. Patent 6,384,297 (Colman et al). In addition to the above noted teachings of Pike et al and Yamamoto, the Examiner cited Colman et al as teaching, with regard to claim 12, forming an air laid non-woven, and furthermore teaching thermal bonding and disposable garments. With respect to claim 14, the Examiner acknowledged that the combination of prior art fails to teach the process of interlacing before heat treatment; however, the Examiner asserted that the limitation constitutes a method limitation not germane to the final product structure. The Examiner furthermore generally acknowledged, at page 4 of the Office Action that the process involved in producing the fibers of the present invention is different, but the Examiner asserted that the claimed product is the same or similar to that of the prior art.

Applicant respectfully submits that the cited references do not teach or suggest the polyester polymer produced by using the specific catalyst as defined in independent claim 1 of the present application, and the characteristics and advantages of the resulting non-woven fabric according to the presently claimed invention produced or provided according to the presently claimed invention provides a non-woven fabric that distinguishes over the cited prior art references. Below, Applicants provides a further detailed explanation regarding the teachings of the cited art references and the distinctions of the presently claimed invention *vis-à-vis* the cited art.

U.S. Patent 6,090,731 (Pike et al)

Pike et al discloses a composite fabric usable as a filter medium and comprising a nonwoven web (a first layer) of autogenously bonded uncrimped multicomponent spunbond fibers which comprise a first thermoplastic polymer component and a second thermoplastic polymer component different in melting point from the first polymer component, wherein the fibers are bonded to each other at fiber cross-overpoints, and a microfiber web (a second layer) laminated to the nonwoven web.

The second thermoplastic polymer of the nonwoven web (the first layer) may be a polyester as recited in claim 5 of Pike et al, or may be polyethylene terephthalate as recited in claim 9 of Pike et al.

However, Pike et al. is silent as to the catalyst, for producing the polyester or the polyethylene terephthalate as recited in claim 5 or 9, respectively.

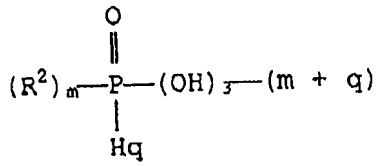
Pike et al does not teach or suggest the specific catalyst as is required in claim 1 of the present application and the specific advantages provided by the catalyst required by claim 1, namely, that the resultant nonwoven fabric of the presently claimed invention has a good color tone (a high L* value and a low b* value), uniform and stabilized quality, and particularly, has desirable practical utility in applications that come in contact with food, for example, food packaging materials, filter materials for food, food harshness-removing sheets for food, oil filter sheets, sheets for kitchen wipers, sheets for reserve osmosis base materials, sanitary materials, filter materials for beverages, etc.

Accordingly, the Pike et al reference does not anticipate or render obvious the presently claimed invention.

EP 1 110 988 Al (Yamamoto)

Yamamoto discloses a polyester produced by using a specific catalyst comprising a reaction product of a titanium compound component with a phosphorus compound component.

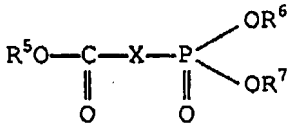
The phosphorus compound component comprises at least one member selected from those represented by the formula (III)



(III)

wherein m = 1 or 2, q = 0 or 1, m + q = 1 or 2, R^2 = an unsubstituted or substituted C_6-C_{20} aryl group or C_1-C_{20} alkyl group, and when m = 2, the two R^2 groups are the same as each other or different from each other.

In contrast to Yamamoto, in the case of the presently claimed invention (see claim 1), the catalyst is a mixture of a Ti compound component with an aP compound component, the phosphorus compound component comprising a phosphorus compound of the formula (III)



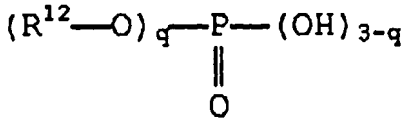
(III)

wherein R^5, R^6, R^7 = C_1-C_4 alkyl group

X = -CH2- or -CH(Y)- group, and

Y = phenyl group;

or, when the catalyst is a reaction mixture of a Ti compound component with a P compound component, the phosphorus compound component has the formula (V)



wherein R^{12}—O = a C_1-C_{20} alkyloxy group or C_6-C_{20} aryloxy group, and q = 1 or 2.

From the foregoing, it is seen that the phosphorus compound of the formula (III) of Yamamoto is an alkyl- or aryl phosphinic acid when m = 2, or an alkyl- or aryl phosphonic acid when m = 1.

In contrast to Yamamoto, the phosphorus compounds of the presently claimed invention are a di-alkyl ester of carboalkoxy -CH2- (or -$CH(Y)^P$-)- phosphonic acid of the formula (III) or a mono- or di-alkyl or aryl-phosphate of the formula (V), which are clearly different from and not taught or suggested by the alkyl- or aryl-phosphonic acid of Yamamoto.

Accordingly, even when considered further to Pike et al, Yamamoto does not render the presently claimed invention obvious.

U.S. Patent 6,384,297 Bl (Colman et al)

Colman et al discloses a water dispersible pantiliner comprising a paper peel strip 1, a water-soluble garment attachment adhesive 2 for attaching the peel strip to a baffle 3 which comprises a blend of polyethylene oxide and ethylene-acrylic acid copolymer, an absorbent core

layer 5 comprising pulp and water-dispersible polymer fibers adhesively attached to the baffle through a construction adhesive 4 and in turn to a body side liner 6, the body side liner comprising crimped water-dispersible sheath-core conjugate fibers.

In column 8, lines 61 to 64 of Colman et al, it is stated the sheath-core conjugate fibers preferably have a denier of about 3 to 6 and a length of less than 6 mm.

In column 9, lines 26 to 46, of Colman et al, it is stated the air laid cover is a 50/50 blend of binder fibers and Nylon fibers (2.2 dtex). However, column 9 of Colman et al is silent as to the denier of the binder fibers.

Also, Colman et al does not teach or suggest a heat-adhesive conjugate fiber containing, as a fiber-forming thermoplastic polymer, a polyester polymer produced by using a specific catalyst as defined in claim 1 of the present application and the specific advantages of the nonwoven fabric of the present invention derived from the using of the specific catalyst.

Thus, Colman et al does not adversely affect the unobviousness of the presently claimed invention.

From the foregoing, it is seen that none of the cited references teach or suggest the polyester polymer produced by using the specific catalyst as defined in claim 1 of the present

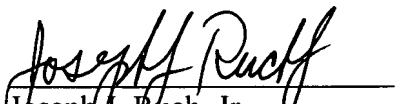
application, and the advantages of the resultant nonwoven fabric of the present invention. Thus, the cited references, even in combination, do not affect the patentability of the present invention.

In view of the above, reconsideration and allowance of pending claims 1 - 16 of this application are now believed to be in order, and such actions are hereby earnestly solicited.

If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned attorney at the local Washington, D.C. telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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